Global Aviation Information Network
(GAIN)

Initial List of

Major Current or Planned Government Aviation Safety Information Collection Programs

Prepared By:

GAIN Government Support Team (GST)

December 2001

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Summary

The Global Aviation Information Network (GAIN) Government Support Team (GST) was tasked with identifying and increasing awareness within the aviation community of current and planned government safety information collection and sharing programs. To accomplish this task, each GST member country or organization was asked to provide a description of their "major" collection and sharing programs. For each program, GST members provided a standardized fact sheet containing pertinent information such as purpose, description, source of data, contact point, etc.

This initial list of programs includes 24 fact sheets submitted by GST members to date. These fact sheets are alphabetically ordered by country or organization and cover both mandatory and voluntary reporting programs. The GST anticipates that increasing awareness of these programs, both within and outside GST member countries and organizations, will facilitate the creation or enhancement of similar reporting programs leading to improvements in aviation safety worldwide. The GST intends to add facts sheets to those contained herein on a regular basis and make them available on the GAIN web site, *www.gainweb.org*.

For more information on GAIN and GST activities, please visit the GAIN web site or contact the GST co-chairs listed below.

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MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: Canada – Transportation Safety Board of Canada (TSB)

Title of Program: ASIS – Aviation Safety Information System

Voluntary or Mandatory Reporting Program: Mandatory and Voluntary – Based on the reporting standards in Annex 13 to the Chicago Convention on International Civil Aviation.

Purpose of Program: To provide the Canadian and international aviation community with safety information as determined from accidents and incidents

Description of Program: The enabling legislation for the Transportation Safety Board (TSB) of Canada requires mandatory reporting for all aviation accidents and for many incidents involving airplanes with a weight greater than 5700 kilograms and helicopters with a maximum weight greater than 2250 kilograms. Safety information is also collected for non-reportable incidents.

Occurrence information is entered into ASIS and verified by aviation safety investigators and by other staff. Data extraction is facilitated by query tools developed by TSB, as well as by the use of Access and Impromptu. There is a component of ASIS that is used to systematically identify safety deficiencies and track safety action. Text fields in ASIS are searchable with computer software such as Fulcrum. ASIS contains more than 38,000 records from 1976 to July 2001. The TSB publishes monthly and yearly aviation safety statistics derived from the ASIS data.

Source of Data: Accident and serious incident investigations in Canada and in other countries in accordance with Annex 13.

Users of Data: TSB investigators in identifying safety deficiencies, Transport Canada and other Canadian Government Departments, ICAO AIG, safety organizations from other countries, and the aviation industry both in Canada and in other countries.

Future Plans for Program: There are plans to permit authorized officials to have direct electronic access to some data.

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MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: Canada – Transportation Safety Board of Canada (TSB)

Title of Program: SECURITAS – The TSB Confidential Reporting System

Voluntary Reporting Program: Voluntary and Confidential

Purpose of Program: To provide a non-punitive and confidential method of obtaining safety information and promoting an atmosphere to facilitate effective reporting of such safety information.

Description of Program: SECURITAS is a multi-modal confidential reporting program intended to receive voluntary reports on safety concerns in the marine, rail and air modes of transportation. It provides a means by which persons with safety concerns can report incidents and potentially unsafe acts or conditions relating to the Canadian transportation system that would not normally be reported through other channels. Data compiled from reports may support TSB studies and analyses on safety-related matters such as operating procedures, training, human performance and equipment suitability. Analysis of the reported concerns can help identify widespread safety deficiencies. Reported information can lead to the TSB making formal recommendations to the Minister of Transport or other appropriate departments for safety action, By pooling data from the reports with other accident/incident reports, studies and analyses, and by sharing it with other agencies and countries, greater insight into national and global transportation safety issues is gained.

Source of Data: Anyone with a safety concern, including those who wish to have their identity protected. The information is provided on a confidential basis by flight crew, air traffic controllers, maintenance personnel, passengers and other persons with aviation safety concerns.

Users of Data: When a reported concern is validated as a safety deficiency, the TSB normally forwards the information, often with suggested corrective action, to the appropriate regulatory authority or air traffic services organization. However, there are occasions, depending on who can best effect corrective action, when specific transportation organizations, companies and/or agencies are the primary recipients of the TSB's observations and analysis. No action will be taken that might compromise the identity of the reporter.

Future Plans for Program: Increased resourcing for SECURITAS is being studied in order to enhance response times.

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MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: Canada / Transport Canada

Title of Program: Computerized Airworthiness Information System (CAIS)

Voluntary or Mandatory Reporting Program: Mandatory

Purpose of Program: The Computerized Airworthiness Information System (CAIS) is a national, mainframe based information system providing all Air Certification, Maintenance & Manufacturing, and Airworthiness offices with access to current airworthiness data on all Canadian-registered aircraft. CAIS is a database of basic tombstone information from the paper 5008 files on each aircraft, and a list of all airworthiness directives (Ads) applicable in Canada. The CAIS 5008 files are largely maintained by regional airworthiness staff, while the AD database and product make/model standardization table are maintained by the HQ Continuing Airworthiness Division. CAIS imports owner information from CCARCS, and exports data to SDRS (mainframe, Oracle, Web, NAPA, EMIS, AVSTATS, Occurrence Data, and the TC Inter/Intranet website.

Source of Data: CAIS is a database of basic tombstone information from the paper 5008 files on each aircraft, and a list of all airworthiness directives (Ads) applicable in Canada.

Users of Data: Transport Canada Air Certification, Maintenance & Manufacturing, and Airworthiness offices.

Users:	400+ authorized
HQ:	25
Regions:	375

Future Plans for Program:

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Comments:

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: Canada / Transport Canada

Title of Program: Civil Aviation Daily Occurrence Reporting System (CADORS)

Voluntary or Mandatory Reporting Program: Mandatory

Purpose of Program: CADORS data is used to provide timely information concerning operational occurrences within the National Civil Air Transportation System and is used in the early identification of potential aviation hazards and system deficiencies. The new version of the CADORS application makes use of web based technologies thereby permitting accessibility to a broader user base; has built-in data integrity checks that were designed to improve the quality and the reliability of the data; has improved querying and reporting capabilities that provide the users with lots of flexibility.

Source of Data: NAV CANADA's AOR reports, TSB reports, airports, police forces, public, etc.

Users of Data: Transport Canada Civil Aviation and External Aviation Stakeholders.

Future Plans for Program: Phase II will look at further enhancements to the application both on the data entry side and the query/reports side.

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Comments:

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: Canada / Transport Canada

Title of Program: Distributed Air Personnel Licensing System (DAPLS)

Voluntary or Mandatory Reporting Program:

Purpose of Program: DAPLS is a regulatory application designed to maintain and issue Air Personnel Documents. The application maintains license and permit information including medical, rating and personal information for flight crew, air traffic controllers, aircraft maintenance engineers and other aviation personnel. A skeleton of information is supported on the Transport Canada mainframe for other applications that require Licensed Personnel information.

Source of Data: An interface between Health Canada transfers medical information daily.

Users of Data: Personnel license holders.

Users: 789

Future Plans for Program: Plans for the future include an interface from Enforcement Management System (EMS) information on licensing suspensions.

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Comments:

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: Canada / Transport Canada

Title of Program: National Civil Aviation Information Systems (NACIS)

Voluntary or Mandatory Reporting Program:

Purpose of Program: Conceived in response to a Ministerial commitment in 1986 that economic regulatory reform would not be allowed to reduce safety standards, the purpose of NACIS is to improve the efficiency of certifying and inspecting air operator operations. NACIS is an application system that contains or has access to all pertinent inspection and certification information on some 2000 carriers holding Canadian Air Operator Certificates. Provides access to data required for issuing and maintaining certification documents, improves accuracy of data, streamlines certification process, facilitates regional printing of certification documents, assists managers in monitoring and schedule of audits, tracks outstanding audit deficiencies, provides DATA to ARASS

Source of Data: Inspection and certification information on some 2000 carriers holding Canadian Air Operator Certificates.

Users of Data: Commercial and Business Aviation Directorate (Certificate Operators; Commercial and Business Aviation; and Dangerous Goods); Manufacturing and Maintenance (AMO Approvals; Users: 400)

Future Plans for Program:

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Comments:

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: Canada / Transport Canada

Title of Program: Canadian Civil Aircraft Register Computer System (CCARCS)

Voluntary or Mandatory Reporting Program: Mandatory

Purpose of Program: CCARCS is a National mainframe system that came into being in 1982. It is an automated system for registering aircraft and maintaining and publishing the Canadian Civil Aviation Aircraft Register. The system allows inquires on all aircraft currently registered in Canada, on previous aircraft owners and on aircraft that have been removed from the Register. As well as generating Aircraft Registration And Leasing Documents, the system gathers information used in the preparation of statistical reports. Current and historical information, which is accessible by the public, is on the Internet for query and report purposes. Current registration information is available on CD-Rom. In 1987, CCARCS was "decentralized" to allow regional users to perform on-line updating of information and administer all aspects of registering aircraft. Since that time, the mainframe system has been enhanced to meet business requirements. New functionality required, however, would be difficult to incorporate through further enhancements to the mainframe. The factors below are driving the need for a new CCARCS.

Source of Data: Aircraft Register Information

Users of Data: Aircraft Registration and Leasing; Other Civil Aviation branches access the mainframe for query purposes; Number of users accessing the mainframe: currently 318; Aircraft Registration and Leasing users: 50.

Future Plans for Program: Change will be in keeping with the department's move to reduced dependence on the mainframe; will incorporate new functionalities driven by regulatory change; and will allow for process improvements which will enable a new way of auditing aircraft registration and leasing activities.

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Comments:

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: Canada / Transport Canada

Title of Program: Service Difficulty Reporting System M/F (SDRS)

Voluntary or Mandatory Reporting Program: Voluntary/Mandatory

Purpose of Program: SDRS records data on aircraft equipment malfunctions, defects and failures to assist Airworthiness personnel in issuing Airworthiness Directives and Safety Advisory Notices. It is a computer data bank based on the contents of the Service Difficulty Report forms filed by the aviation community and is compatible with, and similar to, the system used by the FAA. It facilitates the identification of trends and conditions adversely affecting the airworthiness of aeronautical products.

Source of Data: The data being submitted is reported by two aviation communities, one being purely voluntary by private individuals (usually on recreational aircraft) and the other by those required to submit reports per the Canadian Aviation Regulations (CARs). The SDRS database also contains data from the United States and Australia due to a data exchange program in place with these countries.

Users of Data: Transport Canada Civil Aviation; external clients (air carriers, aviation organizations, manufacturers, AMEs, aircraft owners); international exchange (FAA/Australia)

Future Plans for Program:

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Comments:

MAJOR CURRENT OR PLANNED GOVERNMENT AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: Canada / Transport Canada

Title of Program: Flight Training and Aviation Education (FTAE)

Voluntary or Mandatory Reporting Program: Voluntary

Purpose of Program: The Flight Training and Aviation Education (FTAE) computer system is designed to utilize data compiled from flight test reports and written examination answer sheets to provide current on-line information to Transport Canada staff whose responsibility it is to monitor the quality of flight training and aviation education activities nationally and to ensure that the required standards are maintained. To achieve this, FTAE utilizes two main sub-systems: (1) the Written Examination Development and Analysis subsystem and (2) the Flight Training Standards Monitoring subsystem.

The written Examination Development and Analysis sub-system consists of: a question bank which stores individual test questions by subject area in English and French; an examination development function which accesses the question bank to allow for the development and maintenance of the various written examinations required for all flight crew, flight dispatcher and AME licenses and ratings; a scanning function which optically reads the examination answer sheet, scores the exam and provides printed feedback to the candidate identifying his or her weak knowledge areas; and a reporting function which uses the stored examination results to provide both on-line and hard copy reports for analysis purposes.

The Flight Training Standards Monitoring sub-system stores flight test records of Flight Training Units; provides a record of each flight instructor's students performance on their flight test and a record of all flight tests conducted by each Designated Flight Test Examiner (DFTE). Other information about Flight Training Units, flight instructors, designated flight test examiners, authorized persons and company check pilots is also recorded. A scanning function similar to that of the written examination sub-system is used to collect the information from flight test report forms that rate the flying skills of candidates applying for private and commercial pilot licenses as well as multi-engine, instructor and instrument ratings on aeroplane and helicopter category aircraft. In addition, the system scans Pilot Proficiency Check (PPC) flight test reports on behalf of the Commercial & Business Aviation branch. A reporting function uses the stored flight test results to provide both on-line and hard copy reports for monitoring and analysis purposes. An audit and base inspection-tracking component also forms part of the Flight Training Unit database.

Source of Data: To achieve this, FTAE utilizes two main subsystems: (1) the Written Examination Development and Analysis subsystem and (2) the Flight Training Standards Monitoring subsystem.

Users of Data: Flight Crew Examinations, Flight Training Standards, Personnel Licensing, AME Licensing and Training, Commercial and Business Aviation, Aircraft Services, Flight Operations Training, Air Canada, Flight Operations Training (Toronto).
Users: 318
HQ: 58
Regions: 181
TCCs: 79

Future Plans for Program:

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Comments:

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: Canada / Transport Canada

Title of Program: Civil Aviation Medical Information System WEB Application (CAMIS)

Voluntary or Mandatory Reporting Program:

Purpose of Program: CAMIS will replace the National Aviation Medical Information System (NAMIS) in the Winter 2001 (January 2001 - March 2001), a centralized database containing limited licensed aviation personnel information including: limited tombstone data, assessment data, CAME data and Aviation Medical Review Board (AMRB) proceedings. This information is currently entered at the regional offices and batched on a nightly basis to Transport Canada's Distributed Air Personnel Licensing System (DAPLS), which generates the medical certificate. NAMIS will be phased out on a regional basis, coinciding with the regional implementation of the CAMIS application.

Source of Data: Replaced National Aviation Medical Information System (NAMIS). Contains Limited licensed aviation personnel information including Tombstone data, assessment data, CAME data and aviation medical reviews.

Users of Data: Civil Aviation Medicine (CAM) Group.
Users: 40

Future Plans for Program:

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Comments:

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: FRANCE / B.E.A. (Bureau Enquêtes-Accidents)

Title of Program: Confidential Event Reporting System (Recueil d'Evénements Confidentiel)

Voluntary or Mandatory Reporting Program: Voluntary

Purpose of Program: To prevent future accidents. After an accident or a serious incident, the BEA undertakes a technical investigation aiming to prevent future accidents. Like investigations lead by other countries on various catastrophes, experience shows that an accident or a serious incident is seldom explained by a single cause, but generally stems from multiple causal factors which, if taken separately, would not have necessarily lead to such serious consequences. Preventing these causes before their combination leads to an accident or serious incident could enhance aviation safety.

Description of Program: The REC program, which started in 2000, is in charge of collecting confidential events. Its current framework deals with all activities related to General Aviation (training, aerial work, helicopters, ultra lights, gliders etc).

The REC program consists of collecting reports of minor incidents or the relation of events that occurs separately, and formalizing them in order to facilitate their exploitation by the aviation community on a large scale. It works thanks to the voluntary input of aviation users who concur to enhance safety. They have the possibility to report on an event which is not subject to a mandatory procedure but which is likely to procure useful information on the prevention of accidents.

Safety information is disseminated though a monthly publication called "REC Info".

Source of Data: Reports sent by aviation users who concur to enhance safety.

Users of Data: Whoever is interested in enhancing aviation safety through prevention.

Future Plans for Program: This program should include commercial aviation soon, especially small airlines that encounter difficulties to set up a voluntary reporting program on a company internal basis.

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Comments: The REC database aims to facilitate the search of events according to:

- a simple description of the event itself,
- causes,
- safety barriers that prevented the accident from occurring,
- safety issues linked to the event.

Therefore, these special fields are found in each record in addition to other fields and a narrative. Events are coded and categorized in order to facilitate their extraction around a specific theme for safety studies.

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: FRANCE – DGAC

Title of Program: Incident Reporting System

Voluntary or Mandatory Reporting Program: Mandatory - Based on the JAR-OPS1 (airlines) reporting regulation and its French variant.

Purpose of Program: To improve the collection and the analysis of incident data and to encourage the safety information sharing.

Description of Program: Pilots are required to report any incident that has/might have compromised the safety of the flight (jar-ops 1.420). For serious events detected after the flight, by the Flight Data Monitoring for instance, the operator has also to send its report to the Authority but in this case, the anonymity of persons has to be respected.
Data is centralized and is inserted into the ECC-AIRS (European Coordination Center for Aviation Incident Reporting Systems) database that uses the ICAO ADREP taxonomy. This software has been developed by the European Union and is provided to the EU member states. For the time being, it is implemented in France at a national level. In the near future, DGAC field offices, that supervise the French airlines, will store directly their data in the ECC-AIRS national network. Thanks to this direct access, an improvement of the data quality and richness is expected.

A complementary analysis is performed by the SFACT (Aeronautical Training and Technical Inspection Department of the DGAC) experience feedback office.
The ECC-AIRS system, that has been used as a primary incident reporting system since January 2000, contains 1,600 events.

Source of Data: French Operators

Users of Data: DGAC

Future Plans for Program: The next revision of the jar-ops1 reporting regulation will integrate a list of reportable occurrences, grouping technical and operational events. These regulatory evolutions are conducted in parallel with the future European Directive on the mandatory report of incidents.
Besides, a link between the tool BASIS, used by several airlines, and ECC-AIRS is under construction. It will aim at facilitating the exchange of data between the airline and the DGAC.
In the long term, a European database based on ECC-AIRS is planned. At the present time, information exchange protocols are being discussed amongst European Authorities.

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MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/organization: FRANCE / DGAC/DNA/SCTA

Title of program: Quality Assurance Program for Air Traffic Services

Voluntary or mandatory Reporting Program: Mandatory

Purpose of Program: To provide the Air Traffic Control managers with information related to safety occurrences in ATM. The Quality Assurance Program is based on ESARR2 (ESARR: Eurocontrol Safety Regulatory Requirements) that is going to be transposed in the French Regulation.

Description of program: The program is a mandatory reporting system for ATC related issues (AIRPROX, TCAS Resolution Advisory, Runway incursion, near CFIT….) using the INCA database. INCA is the French database for Air Traffic Control accidents or incidents. Events are classified by "type of event" and "cause", using Heidi vocabulary (taxonomy based on ADREP 2000 and developed by Eurocontrol). Feedback entities called "Quality Service" are in place in the main airports and Enroute Control Centres.

Source of data: Event notification forms generally filled by ATC operators or staff belonging to a "Quality Service" entity.

Users of Data : DGAC (DNA), Eurocontrol

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MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: ICAO

Title of Program: ICAO – ADREP (Accident/Incident Data Reporting) System

Voluntary or Mandatory Reporting Program: Mandatory – Based on the reporting standards in Annex 13 to the Chicago Convention on International Civil Aviation

Purpose of Program: To provide the international aviation community with information on accident and serious incidents

Description of Program: States are required to complete questionnaires (ICAO ADREP Form D and Form P) in which information on investigated accidents and serious incidents to aircraft over a maximum certificated take-off mass of 2250 kg and above is collected. The form contains some 400 data fields, not all of them are applicable to a given occurrence. In addition, States provide information on the factors contributing to the occurrence and a short narrative.

Data reported by States is inserted into a relational data base in ICAO. Based on the information received, ICAO publishes bi-monthly summaries. In addition, ICAO provides a statistical circular base annually. The Air Navigation Commission of ICAO is briefed annually on accident trends based on the analysis of the data received. AIG provides ADREP information for accident prevention purposes to authorized officials in ICAO Contracting States. Annually, some 120 such queries are replied to. ADREP information is analyzed and provided to the relevant Section in respect to all safety related initiatives in ICAO.

The system contains some 26,000 reports from 1970 to today. About 1,000 are added annually.

Source of Data: Accident and serious incident investigations in ICAO Contracting States

Users of Data: Government safety Organizations in ICAO Contracting States, International Organizations the ICAO Council, the ICAO Air Navigation Commission and the ICAO Secretariat.

Future Plans for Program: There are plans to permit authorized officials to have direct access to the data as well as plans to facilitate the electronic reporting. The system is presently being revised to implement the ADREP2000 set of data.

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Comments: This database has a comprehensive coverage for air transport category aircraft accidents, however resulting from incomplete reporting, coverage for general aviation as well as for serious incidents varies greatly between States.

MAJOR CURRENT OR PLANNED GOVERNMENT AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: New Zealand – Civil Aviation Authority (CAA).

Title of Program: ASMS – Aviation Safety Monitoring System.

Voluntary or Mandatory Reporting Program: Mandatory, with provision for information revealing the identity of the source to be removed if confidentiality is requested.

Purpose of Program: To provide the New Zealand aviation community with safety information as determined from accidents and incidents. It is also used to track corrective actions against non-compliances that are detected during proactive surveillance.

Description of Program: ASMS is a relational database that links information on aviation document holders with safety failures (occurrences and non-compliances) and tracks corrective actions. ASMS was commissioned in 1991. It is fully integrated with CAA's management information system.

New Zealand's mandatory reporting requirements are prescribed in CAR Part 12 (available on the CAA web site). Part 12 applies to all aircraft accidents and to all serious incidents except those involving various sport and recreational operations. In addition to the notification requirements for accidents and incidents, Part 12 requires the aircraft owner or the involved organisation notifying a serious incident to conduct an investigation to identify the facts relating to its involvement and the causal factors of the incident. A report of the investigation is required within 90 days of the incident, and must include any actions taken to prevent recurrence of a similar incident.

Using a clone of the CAA's system, Aviation Quality Database (AQD), external organisations are able to gather their own occurrence data, track their own audit corrective actions, analyse the data and report their safety performance directly to the CAA via an electronic interface. ASMS and AQD are uniquely compatible in this respect. In practice, only the larger organisations use AQD. Others use CAA's standard reporting form, CAA005.

CAA safety investigators verify occurrence information before releasing it into the ASMS database. They record findings, causes and corrective actions, basing their coding of attributable cause factors on the Reason model. The system facilitates tracking of both internal and external corrective actions.

CAA investigates all reported occurrences to some extent, ranging from a simple desk verification of data in many cases, through to a full field investigation in more serious cases. All accidents and serious incidents are also notified to the independent Transport Accident Investigation Commission (TAIC). TAIC investigates only those accidents and incidents that, in its opinion, have or are likely to have significant implications for transport safety. If TAIC decides to investigate, CAA stands aside.

Various data extraction and compilation tools are used on the ASMS database. The CAA publishes safety reports quarterly and six-monthly. "Occurrence Briefs" are published in the CAA's bi-monthly safety publication, *Vector*. All of these publications are available on the CAA web site, as is a weekly notification of accidents and also full reports on any fatal accidents that CAA investigates.

Source of Data: ASMS gathers data from the following sources:

- Occurrence notifications received via AQD or form CA005 and associated safety investigation reports.
- Rule non-compliances revealed from proactive surveillance (audits and spot checks) of the aviation industry.
- Aviation Related Concerns (ARCs) raised by any person.
- Safety Recommendations from TAIC and from Coronial Inquests.

Users of Data: Certain information is widely disseminated (see above). The CAA also has a number of risk analysis tools using ASMS data internally in order to target specific operators for special surveillance**.**

ASMS data may provide early identification of the need for safety promotion and education, or the need for targeting of general oversight programs, or for changes to Rules or Standards. It also enables the CAA to be data-driven in its strategic and business planning.

Information received under Part 12 is not used for enforcement action, except in special circumstances such as when false information is supplied or when extreme culpability (recklessness) is revealed.

Future Plans for Program: It is proposed to give electronic access to the ASMS database to the Transport Accident Investigation Commission (TAIC).

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Comments: The CAA has recently adopted the so-called "Just Culture" approach. This recognizes that in a complex safety system heavily reliant on high standards of compliance with procedures, and high standards of professionalism, accountability for individual actions has an important role to play. By drawing the line at recklessness, the "Just Culture" approach aims to find the balance between the extremes of a punitive system and a blame free environment. In this context, "recklessness" is defined as a conscious disregard of a significant and unjustifiable risk. It is the CAA's view that this model promotes compliance and facilitates learning from mistakes. It has led the major players in the New Zealand aviation industry to adopt a frank and open approach to the CAA in revealing and discussing their safety failures.

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: CAA's of the Nordic Countries, Sweden, Norway, Finland, Denmark, Iceland

Title of Program: NORDAIDS, LIT/HIT and local systems applied in the Nordic Countries.

Voluntary or Mandatory Reporting Program: Mandatory

Purpose of Program: Accident/Incident collection, occurrence reporting and analysis system

The legislation in Sweden gives a fully open minded environment, which means that all correspondence concerning deviation reporting in aviation is open as far as it is not a working paper in an on going investigation. Similar legislation is applied in the other Nordic Countries except Denmark.

The reporting willingness is high with few legal actions from findings in investigations.

There are no principal restrictions in exchange of data concerning flight safety with other organisations. A change in legislation in Denmark is guaranteeing a full protection of the reporter against legal blame resulting in high reporting willingness.

Description of Program: The NORDAIDS consists of ICAO Annex 13 accidents and incidents from the Nordic Countries i.e. Denmark, Finland, Iceland, Norway and Sweden. It was founded in 1981. The database is running on a joint concept regulated by an agreement between the Nordic Countries.

We have a long experience of data exchange with Canada, USA and Germany and between the Nordic Countries. Experts from our organisations have also taken active part in the development of the ICAO ADREP Standard and the taxonomy for Eurocontrol ATM reporting including use of ECCAIRS with ADREP 2000 standard as a tool.

The outcome from the use of our present data has been very useful and has lead to actions in most aviation safety processes.

The information content is dated from 1970 to present date 2001 covering about 7000 reports, all types of operation except sport activities.

The system also contains data from Canada, USA and Germany, which for the moment is not updated for the last years. The total data volume is around 60 000 reports. All information is defined at present in ADREP-76 standard.

Sweden is also running a deviation reporting system, LIT, covering the latest 5 years of information including all types of operation and ATM occurrences. The data volume is at present about 10 000 reports. The standard used in LIT is not fully ADREP compatible but may give acceptable mapping results to ECCAIRS. Some of the other Nordic Countries are also running reporting systems on a domestic basis.

Analysis is performed on ad hoc requests as well as broad/deep analysis including trends for the yearly planning program and safety seminars to the industry. Evaluations of recommendations from accident/incident investigations are performed.

Source of Data: Accident/Incidents from the Nordic Countries, dated from 1970, are collected. Occurrence reporting latest 5 years in Sweden is collected in LIT. External data imported from USA, Canada and Germany is also available in the NORDAIDS database.

Users of Data: CAA's in the Nordic countries are front end users. Information is provided within the Authorities and to the industry by regular reports and on request. Limited information is provided to media.

Future Plans for Program: The nearest decided action is to convert all data stored in NORDAIDS, LIT and other local systems into ADREP 2000 standard and also to use ECCAIRS 4 as the database concept. The conversion work is planned to start in the beginning of next year.

In connection to the adoption of ECCAIRS it is also decided to create a Work Flow Management system for the administration of investigations, called HIT, in Sweden. The HIT system is working transparently into the ECCAIRS database enhancing the registration and investigation processes.

The Nordic cooperation is continuing within the NORDAIDS Working Group, NWG, with the main objective to create analysis tools, common analysis tasks, training of analysts and administrative matters concerning data exchange within the Nordic Countries and external data sources.

It is highly desirable that the data content of the databases is expanded to contain data not only from Europe but also from other major aviation countries in accordance with earlier procedures.

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Comments: No further comments

MAJOR CURRENT OR PLANNED GOVERNMENT AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: United States/FAA

Title of Program: Air Transportation Oversight System (ATOS)

Voluntary or Mandatory Reporting Program: Mandatory

Purpose of Program: ATOS is designed to identify safety trends in order to spot and correct problems at their root cause before an accident occurs.

Description of Program: The Air Transportation Oversight System (ATOS) was implemented in 1998 as a new approach to FAA certification and surveillance oversight, using system safety principles and systematic processes to assure that air carriers are in compliance with the Federal Aviation Administration regulations and have safety built into their operating systems. Unlike the traditional oversight methods, ATOS incorporates the structured application of new inspection tasks, analytical processes, and data collection techniques to the oversight of individual air carriers. This approach enables Flight Standards inspectors to be more effective in the oversight of air carriers by focusing on the most critical safety aspects of an air carrier's operation. As currently applied, ATOS provides a systematic process for conducting surveillance, identifying and dealing with risks, and providing data and analysis to guide the oversight of each carrier. Under ATOS, an air carrier's operations have been separated into 7 systems, 14 subsystems, and 88 underlying component "elements" which provide the structure for conducting surveillance, collecting data, and identifying risks or areas of concern.

- Reporting Form Used: The information is entered into the data base directly using the Internet.
- Period of Reporting: 1998 to Present
- Approximate number of records: 30,000
- Are Reports De-identified: No

Source of Data: Aviation Safety Inspectors (ASI) enter the results of their surveillance activities directly into the ATOS Data Base using the Internet. An activity report is generated each time an ASI conducts a surveillance of an Air Carrier.

Users of Data: FAA Flight Standards Inspectors, Flight Standards Managers, Supervisors, and Analysts

Future Plans for Program: The ATOS Data Base is presently being enhanced to incorporate requirements generated by the users of the system.

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Comments: N/A

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: United States/FAA

Title of Program: Safety Performance Analysis System (SPAS)

Voluntary or Mandatory Reporting Program: Mandatory Reporting

Purpose of Program: The Safety Performance Analysis System (SPAS) is designed to aid the FAA in targeting its inspection and certification resources toward those areas that may pose the greatest aviation safety risks.

Description of Program: The safety performance analysis system (SPAS) is an automated decision support system. SPAS can compare the current-to-past performance of an air carrier to its own records or to the industry average. SPAS provides the capability to evaluate current and historical safety-critical performance measures and the retrieval of underlying data; and track the performance of 3,500 air operators and approximately 6,000 air agencies. It also provides information on all FAA certificate Airman.

Source of Data: SPAS provides access to and uses information from the following data bases:

FAA

AIDS	Accident Incident Database System
ADS	Airworthiness Directives Subsystem
AD, AD Preamble, AD NPRM	Airworthiness Directive
Aircraft (MSAT-B)	Aircraft (Multi System Access Tool-B)
Aircraft-Engine Combinations	Aircraft-Engine Combinations
Airman (MSAT-A)	Airman (Multi System Access Tool-A)
ASAP	Aviation Safety/Accident Prevention System
ATOS	Air Transportation Oversight System
CAIS	Comprehensive Airman Information System
EIS	Enforcement Information System
MMELS	Master Minimum Equipment List System
New Entrant	New Entrant Air Carrier
NPTRS	National Program Tracking & Reporting Subsystem
NVIS- Air Operator	National Vital Information Subsystem - Air Operator
NVIS- Air Agency	National Vital Information Subsystem - Air Agency
NVIS- Check Airman	National Vital Information Subsystem - Check Airman
NVIS- Designee	National Vital Information Subsystem - Designee

NVIS- Environmental	National Vital Information Subsystem - Environmental
NVIS- Historical Fleet	National Vital Information Subsystem - Historical Fleet
NVIS- Historical Personnel	National Vital Information Subsystem - Historical Personnel
SDRS	Service Difficulty Reporting Subsystem
Utilization	Air Carrier Aircraft Utilization & Propulsion Reliability System

DOD

Cockpit	DOD Cockpit Observations
Q & S	DOD Quality and Safety
Ramps	DOD Ramp Inspections
SPERS	DOD Survey & Performance Evaluation Resource System

EXPERIAN

Credit Rating	Experian Intelliscore Credit Rating

DOT

Form 41 Traffic	DOT Bureau of Transportation Statistics

NTSB

NTSB	National Transportation Safety Board

Users of Data: Aircraft Certification, Flight Standards Inspectors, Mangers, and Analysts

Future Plans for Program: SPAS plans to expand into a Decision Support Tool for the use of Flight Standards and Aircraft Certification. This will provide the users with a tool that will allow the users to more accurately address identified areas of risk.

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Comments: SPAS is not a database in the sense that data is entered into it. It replicates the data from other data bases, and then performs calculations on that data in order to provide meaningful information to the users.

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: United States/FAA

Title of Program: Near Midair Collision System (NMACS)

Voluntary or Mandatory Reporting Program: Voluntary Reporting

Purpose of Program: Information obtained from NMAC reports is used to develop programs, policies and procedures to reduce NMAC occurrences, thereby enhancing the safety and efficiency of the air transportation system.

Description of Program: The Near Midair Collision System (NMACS) database is used to record reports of in-flight incidents where two aircraft have closed to an unsafe distance and avoided an actual collision. The unsafe distance or operating condition judgement is solely at the determination of one or more aircrew members that a possible midair collision could have occurred or whenever a separation of less than 500 feet was observed while in flight. This database serves as description of the incident, setting, weather, intended and actual operations, evasive actions (if any) taken, location, flight profile, flight conditions, aircraft and aircrew data for two aircraft involved in the reported NMAC.

Source of Data: Preliminary Pilot submitted reports and investigative reports submitted by FAA Flight Standards Inspectors.

Reporting Form Used: FAA Form 8020-21, Preliminary Near Midair Collision Report, and FAA Form 8020-15, Investigation of Near Midair Collision Report.

Users of Data: Air Traffic, Flight Standards, Media, Analysts, and various other individuals/groups.

Future Plans for Program: There is an effort to have all reports of near midair collisions submitted electronically. Currently they are submitted on paper copy.

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Comments: N/A

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: United States/FAA

Title of Program: Pilot Deviation System (PDS)

Voluntary or Mandatory Reporting Program: Mandatory Reporting

Purpose of Program: The FAA uses the mandatory Pilot Deviation reporting system to determine if the actions of a pilot violate a Federal Aviation Regulation (FAR) or a North American Aerospace Defense Command (NORAD).

Description of Program:

- Reporting Form Used: FAA Form 8020-17, Preliminary Pilot Deviation Report, and FAA Form 8020-18, Investigation of Pilot Deviation Report.
- Period of Reporting: 1987 to Present.
- Approximate Number of Reports: Over 25,000 through the end of CY2000.
- Are Reports De-identified: No.
- Other: In 1987 the FAA began recording Pilot Deviations in a database maintained by the Office of System Safety. In 1998, ATX acquired the responsibility of maintaining the PDS database.

Source of Data: Air Traffic Controllers submit Preliminary PD reports and investigations of preliminary reports are submitted by Flight Standards Investigators.

Users of Data: Air Traffic, Flight Standards, Media, Analysts, and various other individuals/groups.

Future Plans for Program: There is an effort to have all reports of pilot deviations submitted electronically. Currently they are submitted on paper copy.

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Comments: The database information gives a good account of what happened, but is not useful for getting at the root cause of pilot deviations.

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: United States/FAA

Title of Program: Operational Error/Deviation System (OEDS)

Voluntary or Mandatory Reporting Program: Mandatory Reporting

Purpose of Program: The FAA uses the mandatory OEDS to determine if the actions of a controller resulted in:

1. Less than the applicable separation minima between two or more aircraft or between an aircraft and terrain or obstacles as required by FAA Order 7110.65

2. An aircraft landing or departing on a runway closed to aircraft operations after receiving air traffic authorization.

Description of Program:

- Reporting Form Used: FAA Form 7310-3 (01/97), Final Operational Error/Deviation Report.
- Period of Reporting: 1985 to Present.
- Approximate Number of Reports: 19,000.
- Are Reports De-identified: No.

Source of Data: Operational Error/Deviation reports are submitted by Air Traffic Control Facilities.

Users of Data: Air Traffic, Media, Analysts, and various other individuals/groups.

Future Plans for Program: There is an effort to have all reports of operational errors/deviations submitted electronically. Currently about 95% of the OEDS forms are submitted electronically.

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Comments: N/A

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: United States/FAA

Title of Program: Aviation Safety Action Programs (ASAP)

Voluntary or Mandatory Reporting Program: Voluntary Reporting

Purpose of Program: The ASAP is intended to encourage employees of airlines and certificated repair stations to voluntarily report alleged regulatory violations and safety related events. The information is used to take non-punitive corrective action in individual cases, and to correct systemic problems.

Description of Program: Based on a memorandum of understanding with the FAA, the disposition of reports is determined through consensus by an event review committee consisting of one representative from the FAA, company management, and labor. Reports of events accepted under the program are subject to FAA administrative action, or to no action, in lieu of enforcement action. To be accepted under the program, alleged regulatory violations must be inadvertent, and must not appear to involve intentional disregard for safety, criminal activity, substance abuse, controlled substances, alcohol, or intentional falsification. De-identified safety related information from ASAP reports is distributed to airline departments for corrective action as required.

Source of Data: Employee reports from flight crewmembers, mechanics, flight attendants, and dispatchers of certain air carriers and repair station certificate holders.

Users of Data: Air Carriers, Federal Aviation Administration (Flight Standards, Aircraft Certification, Air Traffic), and labor association professional standards groups.

Future Plans for Program: Many air carriers plan to integrate information from ASAP with FOQA on a company internal basis.

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Comments: ASAP can provide information that may otherwise be unobtainable, and yield valuable insights into the causality from an employee perspective of adverse safety events.

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: United States/FAA

Title of Program: Flight Operational Quality Assurance (FOQA)

Voluntary or Mandatory Reporting Program: Voluntary Reporting

Purpose of Program: Digital flight data from flight operations is routinely extracted and analyzed to identify exceedences in individual flights, and adverse safety trends within and across airline fleets. The information is used to take non-punitive corrective action in individual cases, and to correct systemic problems.

Description of Program: Digital flight data is reviewed by an airline exceedence monitoring team comprised of representatives from company management and labor. If contact with an individual flight crew is needed to follow-up on FOQA data, a representative from labor accomplishes the contact. Information on FOQA trends is distributed to airline fleet managers, and to other company departments as appropriate. The FAA does not use information obtained from an approved FOQA program for enforcement purposes, except in egregious cases. Airlines seeking enforcement protection must submit a FOQA Implementation and Operations Plan which stipulates that the airline will take corrective action for adverse safety trends identified in FOQA data, and which states that the FAA will have access to de-identified FOQA trend information on the air carrier's premises to verify the effectiveness of such action.

Source of Data: Aircraft Digital Flight Data Recorder (DFDR)

Users of Data: Air Carriers, Federal Aviation Administration (Flight Standards, Aircraft Certification, Air Traffic), and labor association professional standards groups.

Future Plans for Program: FAA plans to issue a FOQA rule. Many air carriers plan to integrate information from ASAP with FOQA on a company internal basis.

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Comments: FOQA data is unique because it can provide objective information that is not available through other methods. The information and insights provided by FOQA can improve safety by significantly enhancing training effectiveness, operational procedures, maintenance and engineering procedures, and air traffic control procedures.

MAJOR CURRENT OR PLANNED GOVERNMENT
AVIATION SAFETY INFORMATION COLLECTION PROGRAMS

Country/Organization: U.S.A./National Transportation Safety Board (NTSB)

Title of Program: Aviation Accident/Incident Database

Voluntary or Mandatory Reporting Program: Mandatory

Purpose of Program: The NTSB is an independent Federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in the other modes of transportation -- railroad, highway, marine and pipeline. Representatives from numerous Federal, State and Local authorities as well as various segments of the industry usually participate in the investigation of major accidents. The NTSB determines the probable cause of accidents and issues safety recommendations aimed at preventing future accidents.

Description of Program: The NTSB accident/incident database is the official repository of aviation accident data and causal factors. In the NTSB database, an event is classified as an accident or an incident. "Aircraft accident" means an occurrence associated with the operation of an aircraft, which takes place between the time any person boards the aircraft with the intention of flight and the time that all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage. The NTSB defines "Incident" to mean an occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations.

Source of Data: Data is obtained using the following collection forms: NTSB Form 6120.19A (Preliminary Report) and NTSB Form 6120.4 (Factual Report). A Preliminary report is to be completed within 5 working days of the event and a Factual report with additional information concerning the occurrence is available within a few months. A Final report, which includes a statement of the probable cause, may not be completed for months after the investigation has been completed (it is not uncommon for the investigation of major accidents to require a year or more). Preliminary reports contain only a few data elements; i.e., date, location, aircraft operator, type of aircraft, etc. (they function as placeholders until the Factual and Final reports are entered into the database).

Users of Data: NTSB, FAA, Aircraft Manufacturers, Airlines, Media, Academia, Public, Other Government Organizations, and Lawyers

Future Plans for Program: Beginning in January 2001, NTSB revised the accident database software structure and the data input program used by investigators. Future changes will constitute refinements to that Accident Data Management System (ADMS). For example, the addition of an accident category list is planned for implementation once the CAST / ICAO Common Taxonomy Team effort to formalize accident category definitions is complete.

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Comments: The FAA record of aviation incidents is maintained in a similar database structure.